E-mail: jrjfwe2019@gmail.com; jfewr@yahoo.com

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ASSESSMENT OFCOMMERCIAL IMPORTANCE AND DETERMINANT FACTORS -INFLUENCING COLLECTION OF NON TIMBER FOREST PRODUCTS IN ADJOINING COMMUNITIES OF LANLATE FOREST RESERVE OF OYO STATE, NIGERIA

[1]Babatunde, T. O., [2]Babatunde, O. O, [1]Okeleke, S. O., [3]Aduloju, A.R. and [1]Agboola, F. O.

1 Department of Forestry Technology, Federal College of Forestry Jericho Ibadan,Oyo State Nigeria
2 Department of Wood and Paper Technology, Federal College of Forestry Jericho Ibadan,Oyo State Nigeria
3 Department of Agricultural Technology, Federal College of Forestry Jericho Ibadan,Oyo State Nigeria

***Corresponding Author:** *sollybee2012@gmail.com;* +2348033948859

ABSTRACT

The study focused on the assessment of commercial importance and determinant factors influencing collection of non timber forest products in adjoining communities of Lanlate. Purposive sampling was used to select four villages Alapa, Opo Ogede, Afayasoro, and Panlati which are closed to the forest reserve with projected population of 640,290,540 and250 respectively. Furthermore Diaw et,al (2002)was used to select respondent for the study,113 questionnaire were administered out of which 106 were retrieved..Data collected were analyzed using descriptive statistics such as percentage and frequency distribution and inferential statistics. Majority of the respondents were within the age brackets of 42-60 years (30.2%) and mostly male (81.1%); 62.3% of the respondents had secondary education. Results further showed that81.2% of the respondents were married, 57.5% were engaged in farming as occupations and 53.8% had spent 10-20 years in the area. Non Timber Forest Products (NTFPs) collected in the area were34.9% of bush-meats, (45.3%) collected NTFPs between 3 - 5 days in a week and some of challenges faced were unattractive price, poor road network and inadequate credit accessibility. The study recommended that government should encourage development of participative programme involving local people for the evaluation of NTFPs resources for sustainable production, harvesting and use of NTFPs.

Keywords: Assessment, Communities, Factors, Forest Reserve, NTFPs, Respondents.

INTRODUCTION

FAO (2010) defined Non-timber forest products (NTFPs)as products of biological origin other than wood derived from forests, other wooded land and trees outside forests. They may be gathered from the wild, or produced in forest plantations, agro-forestry schemes and from trees outside forests. Non-timber forest products (NTFPs) include forest plants and mushroom products, fruits, charcoal, vegetables, honey, firewood, building materials and services. NTFPs are goods of biological origin other than timber derived from the forest or associated ecosystems which are consumed directly as food, medicine or which contribute non-consumptive values to human welfare (FAO, 2008). The non-consumptive uses may include microclimatic amelioration, watershed soil and protection and conservation as well as aesthetic and cultural values (Brian *et al.*, 2011).

The NTFPs create high economic value and large-scale employment. The NTFPs have attracted global interest due to the increasing recognition of the fact that they can provide important community needs for improved rural livelihood (World Bank, 2006).Globally, more than a billion people depend directly on forests for their livelihoods and the remaining six billion of us depend on forests for a

variety of economic, social and environmental benefits such as the rainfall, biodiversity, pollinators, carbon storage and clean water they provide. Out of which NTFPs contribution is significant in providing adequate food, fuel, feed, health and fiber for growing populations.

NTFPs provide 50% of the household income for approximately one third of Nigerian rural population. Considering the importance of NTFPs in the livelihoods and wellbeing of local people, especially in the developing world, it is intriguing why the sector still receives so little attention in development policies and budgets as well as in programs and budgets from relevant government departments, such as for forestry, agriculture, rural development, environment or energy (Shackleton and Pandey, 2014).

Eighty percent (80%) of the developing world relies on non-timber forest product for nutritional and health needs (FAO, 2003. Forest product have been valued for many products and benefit they provide (i.e. food, fodder, medicine, fuel, medicine, wood, timber, among others) and as source of income from harvesting, processing and trade in these items (Tawari, 2012). Millions of households in developing countries and in Nigeria particularly depend on various products other non-timber and other industrial round wood i.e. non-timber forest products (NTFPs) which have always constituted a large part of forest economy (Neumann and Hirsch 2000; Ahenken *et al.*, 2011).

The use of non-timber forest products (NTFPs) is as old as human existence (Aiyeloja and Ajewole, 2006). In subsistence and rural economics, the role and contributions of NTFPs in daily life and welfare of people all over the world are crucial because of their richness of variety, as sources of food for example fruits, nuts, honey, insects, animals, fodder, fiber, fertilizers, medicinal extracts, construction materials, cosmetic and cultural products, natural dyes, tannin, gums, resins, latex, and other exudates, essential oils, spices, edible oils, decorative articles, horns, tusks, bones, pelts, plumes, hides and skins, non-wood lignocelluloses products, photochemical and aroma chemicals.

NTFPs use is characterized by a diversity of institutional arrangements regarding access to the resources and markets at both local and national level (Larinde *et al.*, 2011).There is, however, great variation in the extent to which forest products are used from area to area and even between households within a community. Because of this variation, it is difficult to abstract generalizations about NTFPs use. Indeed, this variation reflects the extent to which NTFPs are an integral part of rural livelihoods. People only exploit resources from the forests when they cannot be found on nearby fallow lands, or when they are collecting for trade and better supplies are available in the forest. NTFPs can be classified into different categories, based on the purpose of use (for example, as food, fuel, medicine, house hold utensils, farm implements); level of use (self supporting, commercial); the part of plants harvested (leaf, fruit, stem ,roots) and trophy from wild animals (Jeannette, 2000). According to (Andel, 2006).

MATERIALS AND METHODS

Study Area

The study was carried out at Lanlate Forest Reserve. It is located at Ibarapa East Local Governmentof Oyo State. Its Headquarters-is in the town of Eruwa and has an area with 838km^2. Ibarapa East is bounded by Iseyin Local Governmentin the eastern side,OgunState to the south, Ibarapa Central and east north LGAs to the westerns side. Lanlate Forest Reserve was established in 1999 during the much rush for teak wood by Chinese and Lebanese businessman and its environs. It lies between 3^{o}37’0.01” longitude and 7^{0}43’0.01 latitude with an area of 7,507ha and the estimate terrain elevation above sea level is 192meters. The surrounding villages including: Alawure, Alapa,Opoogede, Afayasoro, Aba panu, Panlati, Abule guard, and Yanko.

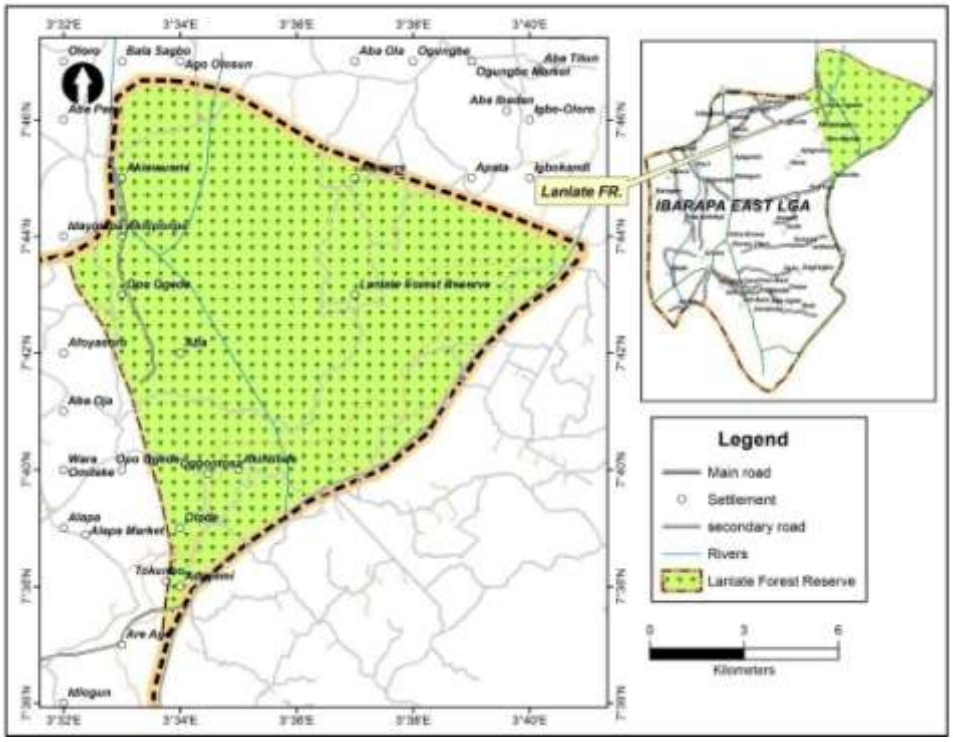

Figure 1: Map of Forest Reserve in Ibarapa, East Local Government of Oyo State

Sampling Technique and Sample Size

Purposive sampling was used to select four villages which are Alapa, Opoogede, Afayasoro and Panlati which are close to the forest reserve with projected population of 640, 290,540 and 250 respectively. Furthermore, Diaw*et al*., (2002) was used to select respondents for the study which indicate 10% sampling intensity was used to sample respondents in the study area where the population is less than 500, 5% sampling intensity for population between 500 and 1000 and 2.5% for the population above 1000. In the light of this, 32 questionnaires in Alapa, 29 in Opoogede, 27 in Afayasoro and 25 in Panlati, making a total of 113 questionnaires were distributed in the study area out of which 106 were retrieved. In addition, questionnaires were administered to respondents to whom the questionnaire were read and interpreted since they were non-literate respondents.

Data Analysis

Data of the study were analyzed using descriptive statistics such as percentage and frequency distribution and inferential statistics (logistic regression model**)**

Logistic regression model can be expressed as;

$Y = \exp(b_0+b_1X_1+b_2X_2+\ldots b_9X_9)/ 1 + \exp(b_0+b_1X_1\ldots b_9X_9)$……..equ(2)

Where;

Y = factors influencing collection of NTFPs (Dependent variable)

Independents variables are;

X_1 = unattractive price ; X_2 = forest law; X_3 = inadequate credit accessibility; X_4= poor road network; X_5 = poor management of the forest reserve; X_6 = limiting entrance into the forest reserve; X_7 = hunting accidents

X_8 = disturbance by evil spirits; X_9 = poor conservation

RESULTS

Table .1 shows the demographic characteristics of the respondents in the study area. The table revealed that 81.1% were male while 18.9% were female. This implies that the majority of the respondents were male. This is because male are traditionally the major providers of household income.. The table also revealed that 28.3% are of age 18-30 years, 38.7% are of age 31-40 years, 30.2% are of age 42-60 years and 2.8% are above 60 years. This means that the majority of the respondents are 31-41 years. The table further revealed that 28.3% of the respondent had primary education, 62.3% of the respondent had secondary education and 9.4% had tertiary education.. The table also revealed that

4.7% are single, 81.2% are married, and 4.7% are widow while 9.4% are widower.. The result showed that 57.7% practiced farming as occupation and 26.4% engaged in hunting as occupation. The result showed that 11.3% of the respondent had spent less than 10 years in the area, 53.8% 0f the respondent had spent within 10-20 years in the area, 14.2% of the respondent had spent within 21-30 years in the area, 10.4% of the respondent had spent within 31-40 years in the area, 7.7% of the respondent had spent within 41-50 years in the area and 2.8% had spent above 50 years in the area.

Table 1: Socio-economic Characteristics of the Respondents in Communities of Lanlate Forest Reserve

Variable	Frequency	Percentage (%)
Village		
Panlati	25	23.6
OpoOgede	22	20.8
Afayasoro	27	25.5
Alapa	32	30.2
Total	**106**	**100**
Gender		
Male	86	81.1
Female	20	18.9
Total	**106**	**100**
Age of The Respondent		
18-30years	30	28.3
31-41years	41	38.7
42-60years	32	30.2
Above 60years	3	2.8
Total	**106**	**100**
Education Level		
Primary	30	28.3
Secondary	66	62.3
Tertiary	10	9.4
No formal	-	-
Total	**106**	**100**
Marital Status		
Single	5	4.7
Married	86	81.2
Widow	5	4.7
Widower	10	9.4
Divorced	-	-
Total	**106**	**100**
Occupation		
Farming	61	57.5
Hunting	28	26.4
Others	17	16.0
Total	106	100
Years Spent in the Area		
Less than 10years	12	11.3
10-20	57	53.8
21-30	15	14.2
31-40	11	10.4
41-50	8	7.5
Above 50	3	2.8
Total	**106**	**100**

Table 2 shows that 34.9% of NTP's in the study area were Bush-meat, 9.4% of NTFP's in the area were fire-wood, 19.8% of the NTFP's in the area were Charcoal, 8.5% of the NTFP's in the area were Honey, 8.5% of the NTFP's in the study area were Snail and 18.9% were other NTFP's. Again, 54.7% of NTFPs were collected in dry season while 45.3% of NTFPs were collect in wet season; it showed that NTFPs is mostly collected in dry season..The result also showed that 37.7% of NTFPs serves as source of income, 31.1% of NTFPs serves for the purpose of consumption, 16.1% of NTFPs serves as fuel, 9.4% of NTFPs serve as source of food and 5.7% serves for other purpose. The result indicates that NTFPs serve as source of income for most of the respondent in the area.

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Table.2: Commercial Importance of NTFP's Utilised by Households in Communities of Lanlate Forest Reserve

Variable	Frequency	Percentage (%)
Types of NTFP's		
Bush-meat	37	34.9
Firewood	10	9.4
Charcoal	21	19.8
Honey	9	8.5
Snail	9	8.5
Others	20	18.9
Total	**106**	**100**
Collection Season		
Dry	58	54.7
Wet	48	45.2
Total	**106**	**100**
Uses of NTFP's		
Sources of income	40	37.7
Consumption purpose	33	31.1
Serves as fuel	17	16.1
Sources of food	10	9.4
Others	6	5.7
Total	**106**	**100**

However, inadequate credit accessibility had the highest odd-ratio of 25.65 than unattractive price, and disturbance by evil spirits with old-ratio of 6.82 and 2.84 respectively. This is therefore implies that factors with positive value have the likelihood of contributing to the factors influencing collection of NTFPs. Hence it is clearly indicated the variables(s) i.e factors that mostly influence collection of NTFPs in the study area.

Table 3: Logistic Regression Model of Determinants of Factors that Influence Collection of NTFPS in Communities of Lanlate Forest Reserve

Independent variable	Coefficient	Odd Ratio
Whether UNP is factor influencing NTFPs collection	1.92	6.82*
Whether FOL is factor influencing NTFPs collection	-2.54	0.08
Whether INC is factor influencing NTFPs collection	3.24	25.65*
Whether POR is factor influencing NTFPs collection	-2.35	0.10
Whether POM is factor influencing NTFPs collection	-52.57	0.00
Whether LIM is factor influencing NTFPs collection	-3.53	0.03
Whether HUN is factor influencing NTFPs collection	-1.87	0.16
Whether DIS is factor influencing NTFPs collection	1.04	2.84*
Whether POC is factor influencing NTFPs collection	-1.00	0.37

Table 4 revealed that majority of the respondent (85.9%) agreed that unattractive price is one of the constraint facing NTFPs while collection 14.1% disagreed, 83% of the respondent agreed that inadequate credits accessibility while 17% disagreed, 69.8% said hunting accidents (snake bite and gun shots) is one of problems facing NTFPs collection and 82.1% decided thatpoor road network affect NTFPs while 17.9% of the respondent did not considered poor road network as of one constraint facing NTFPs collection in the area.

Table 4: Constraints facing Collection of NTFPs in Communities of Lanlate Forest Reserve

Constraint	Yes (%)	No (%)
Unattractive price	91(85.9)	15(14.1)
Inadequate credits accessibility	88(83.0)	18(17)
Disturbance by evil spirits	61(57.5)	45(42.5)
Hunting accidents(snake bite and gun-shot)	74(69.8)	32(30.2)
Poor road network	87(82.1)	19(17.9)

DISCUSSION

This is because male are traditionally the major providers of household income. This therefore conform to the findings of BMGF (2008) which stated that men are accorded much status than women, which has significant impact on access to resources and assignment of rights and duties; as well as findings of Birner and Allison (2006) which stated that more men engaged in agriculture than females Following Akanni (2013) who stated that villagers who are adults, In their middle age they have sufficient energy to execute the task of gathering NTFPs in Nigeria Since education affects productivity of NTFPs, this scenario of low illiteracy greatly impaired the adaptability of the inputs used and had a negative impact on the productivity of NTFPs individuals (Jonah 2013). The result is also in agreement with the findings of Babatunde,(2008) which stated that farmers in rural communities are married and also corroborate the findings of Afolayan (2002) who stated that majority of married and widowed were mostly engaged in farming activities in rural areas. This implies that most of the respondents were farmers in the study area and the result agreed with Farinola *et al.,* This result show that majority of the respondent in study area collected Bush-meat and this confirmed the findings of Hoskin (1990) who stated that 80% of animal protein consumed in rural Nigerians in forest adjoining communities is varied from either cooked, sundry, or smoked came from bush-meats. The result indicate that if there is continuation in dry season NTFPs used to provide household income through supply of various products from the forest as an alternative sources (Chikamai *et al.,* 2000) Fopes and Ketphanh, (2014), reported that NTFPs are estimated to contribute 40-50% of cash income to rural household. The implications was corroborated by Deeks (1996); Bland and Altman (2000) that the

logit model provides information on the consequences of one variable on the other. There the existence of these poses serious challenges on inadequate collection of NTFPs in the study area.

CONCLUSION

Based on this study Non-Timber Forest Products have the potential ability to sustain lives in the study area. Majority (62.3%) were male and married and mostly engaged in farming. The importance of Non- Timber Forest Products cannot be over-looked in the ability to sustain livelihood. It requires little education before one can take part in the collection and sales of NTFPs also little capital and the turnover is much. Based on the collection of non-timber forest products by a large majority of the people living in the study area and coupled with the role they play in meeting the basic needs and sustaining livelihood, it can be concluded that there are wide range of non-timber forest products in Lanlate Forest Reserve such as , honey, charcoal, Firewood, Snail and Bush meat is viable and will be a sustainable potential for income generation.

Recommendations

The rural dwellers of the study area should be encouraged to cultivate the cultivable non-timber forest products for continous income generation. The youth should be informed about the importance and benefits of Non-Timber Forest Products. Community forestry should also be encouraged by the state government and Non-Governmental Organizations through education, seminars, construction of roads for adequate transportation of NTFPs and assisting the foresters in protecting the forest from encroachers and illegal felling.

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